IN THE CLAIMS

The preamble of claims 1-10 have been amended.

1. (Currently Amended) A ~~photoresist~~ photoresistive material comprising:

a negative tone photoresist having at least a cycloolefin functionalized with a di-ol.

2. (Currently Amended) The ~~photoresist~~ photoresistive material of claim 1, further comprising:

an aromatic structure copolymerized with the cycloolefin.

3. (Currently Amended) The ~~photoresist~~ photoresistive material of claim 2, further comprising a molecule bonded to the aromatic structure, wherein the molecule is selected from a group consisting of a hydrogen atom, an alkyl group, or a hydroxyl group.

4. (Currently Amended) The ~~photoresist~~ photoresistive material of claim 1, wherein the di-ol comprises an alkyl functionalized by two hydroxyl groups.

5. (Currently Amended) The ~~photoresist~~ photoresistive material of claim 1, wherein the di-ol further comprises additional functional groups, each functional group being selected from a group consisting of a hydrogen atom, an alkyl group, an aromatic structure, or a cage.

6. (Currently Amended) The ~~photoresist~~ photoresistive material of claim 1, wherein the cycloolefin is an aromatic structure.

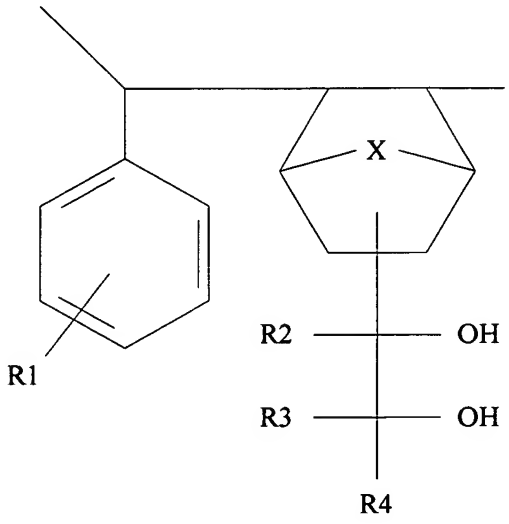
7. (Currently Amended) The ~~photoresist~~ photoresistive material of claim 1, wherein the cycloolefin is a norbornene structure.

8. (Currently Amended) The ~~photoresist~~ photoresistive material of claim 7, wherein the norbornene structure comprises a side-group, wherein the side-group is selected from a group consisting of a carbon atom, and alkyl group, an oxygen atom, or a sulfur atom.

9. (Currently Amended) The ~~photoresist~~ photoresistive material of claim 2, further comprising a photo acid generator (PAG).

10. (Currently Amended) A negative tone photoresist comprising:

a copolymerized structure represented by the following molecule



(1)

where R1 is a hydrogen atom, an alkyl, or a hydroxyl, where each of R2, R3 and R4 is a hydrogen atom, alkyl, aromatic, and/or cage, and where X is no atom, a carbon atom, an alkyl, an oxygen atom, or a sulfur atom.

11. (Currently Amended) A method comprising:

depositing a negative tone photoresist comprising a cycloolefin functionalized with a di-ol on an underlying layer; and

exposing at least a portion of the negative tone photoresist to radiation to form at least a carbonate containing material.

12. (Original) The method of claim 11, wherein the carbonate containing material is a ketone.

13. (Original) The method of claim 11, wherein the carbonate containing material is a aldehyde.

14. (Original) The method of claim 11, wherein the underlying layer is a substrate.

15. (Cancelled) ~~The method of claim 11, wherein the photoresist is a negative tone photoresist.~~

16. (Currently Amended) The method of claim 11, wherein exposing at least a portion of the negative tone photoresist to radiation is done through a mask.

17. (Original) The method of claim 11, wherein the radiation is generated from an EUV exposure tool.

18. (Currently Amended) The method of claim 11, further comprising baking the negative tone photoresist.

19. (Currently Amended) The method of claim 11, wherein the negative tone photoresist further comprises a first aromatic structure copolymerized with the cycloolefin.

20. (Original) The method of claim 19, wherein the first aromatic structure is functionalized with a first functional group.

21. (Original) The method of claim 20, wherein the first functional group is selected from a group consisting of a hydrogen atom, an alkyl group, or a hydroxyl group.

22. (Original) The method of claim 19, wherein the di-ol comprises an alkyl functionalized by two hydroxyl groups.

23. (Original) The method of claim 22, wherein the di-ol further comprises a second, a third, and a fourth functional group, wherein each of the second, third, and fourth functional groups is a hydrogen atom, an alkyl group, an aromatic structure, or a cage.

24. (Currently Amended) The method of claim 11, wherein depositing the negative tone photoresist on an underlying layer comprises: spin-coating the negative tone photoresist on the underlying layer.

25. (Currently Amended) The method of claim 11, further comprising developing the negative tone photoresist layer by depositing a developer solution on the negative tone photoresist layer.

26. (Original) The method of claim 25, wherein the developer is TMAH.

27. (Original) The method of claim 26, wherein the developer is 2.38% TMAH.

28. (Currently Amended) The method of claim 25, further comprising stripping the at least a portion of the negative tone photoresist layer exposed to UV rays.

29. (new) The method of claim 11, wherein after exposure, the exposed portion of the negative tone photoresist is less solulable to a developer solution.

30. (new) A photoresist comprising:

a cycloolefin functionalized with a di-ol, the di-ol, upon exposure to light, to undergo a pinacol rearrangement, wherein after the pinacol rearrangement the photoresist is less solulable in a developer solution.

31. (new) The method of claim 30, wherein the photoresist further comprises a first aromatic structure copolymerized with the cycloolefin, the first aromatic structure functionalized with a first functional group.

32. (new) The method of claim 31, wherein the first functional group is selected from a group consisting of a hydrogen atom, an alkyl group, or a hydroxyl group.